ABSTRACT

A system and method are disclosed for carrying additional information data on multiplexed signals which are modulated on different wavelengths. An information code such as an address or control data for a particular data signal at a selected wavelength is overlaid on the parallel multiplexed signals. The information code may be overlaid by attenuation or changing the amplitude of the different signals. A separate marker channel at a separate wavelength is also multiplexed with the data signals to indicate the presence of an information code. An optical data detector array is used to optically determine the encoded address by comparing the signals with light levels and producing an output when a matching code is detected. The optical data detector array uses a series of detectors each corresponding to the wavelength of light signals carrying the information data. The detectors each have two photo detectors which are wired in parallel with each other to produce a voltage output when different light levels are detected on the two photo detectors. Using the information codes, an optical buffer may be realized which allows true optical switching of a data signal on detection of a matching information code. Alternatively, optical signals may be cross connected to balance data traffic through a fiber optic cable.